



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/536,789	11/14/2005	Bernhard Kuhn	30815/27348	2873
4743 7590 01/24/2008 MARSHALL, GERSTEIN & BORUN LLP 233 S. WACKER DRIVE, SUITE 6300 SEARS TOWER CHICAGO, IL 60606			EXAMINER BUMGARNER, MELBA N	
			ART UNIT 3732	PAPER NUMBER
			MAIL DATE 01/24/2008	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

**Application No.**

10/536,789

**Applicant(s)**

KUHN, BERNHARD

**Examiner**

Melba Bumgarner

**Art Unit**

3732

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 02 November 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                    | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 2, 4, 5, 7-10, 12, 18, and 27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Recitation of "the extension" and/or "the first transmission stage" in claims 2, 9, 11, and 27, "the last transmission stage" in claim 12, "the individual transmission stages" in claims 4 and 7, "the two planetary transmissions" in claim 18, lack sufficient antecedent basis. It is unclear which part is meant by this sun gear in claim 8.

### *Claim Objections*

3. Claim 18 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

### *Claim Rejections - 35 USC § 102*

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 3-5, 11, 18, 20, 21, and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Garcia et al. (FR2530454). Garcia et al. disclose a dental handpiece for a

Art Unit: 3732

treatment tool driven by a drive part 20 via a transmission arrangement, the transmission arrangement containing at least two planetary transmission stages 10,16 connected one after another, each has a sun gear 11,15 mounted on a drive shaft 12,13, a planetary gear carrier 14,19 having a plurality of uniformly distributed planetary gears 9,17 cooperating with the sun gear and a hollow gear fixed to a housing, surrounding the planetary gears and having an inner toothing 8,18, the carrier of at least one stage serving as drive shaft 13,20 and carrier of the sun gear of a following transmission stage, the drive shaft for each stage extends beyond the sun gear driven thereby and the carrier associated with this sun gear is arranged rotatably on a portion of the drive shaft that extends beyond the sun gear (figure 1). The carriers are slidingly mounted with respect to the drive shafts engaging therein. The sun gears and planetary gears of the transmission stages are shown to have identical dimensions. The hollow gears are formed by a single sleeve-like component having inner toothing. The transmission arrangement has a housing and the drive shaft for the first transmission stage is mounted with respect to the transmission housing by ball bearing 21,22. The arrangement is arranged in sleeve-like transmission housing 3,4,5 and can be emplaced in the handpiece or removed.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 2, 12, and 27 are rejected as understood, under 35 U.S.C. 103(a) as being unpatentable over Garcia et al. Garcia et al. disclose a handpiece that shows the limitations as

Art Unit: 3732

described above and the planetary gear carriers of all stages are hollow shafts; however, they do not show the extension of the drive shaft for the first transmission stage extending substantially over the entire length of the transmission arrangement, centrally through openings in the carriers. It would have been obvious matter of choice to one of ordinary skill in the art to have the drive shaft of Garcia et al. that extends substantially through the following transmission stage to further extend into the opening of the hollow shaft of the planetary gear carrier. Garcia et al. show the transmission arrangement having housing and the drive shaft of the carrier of the last transmission stage mounted with respect to the housing by means of ball bearing. It would have been an obvious matter of design choice to one of ordinary skill in the art at the time the invention was made to have the housing include coverage of the carrier portion which is attached to the drive shaft.

8. Claims 6-8, 10, 13, 19, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Garcia et al. in view of Meller et al. (5,569,034). Garcia et al. disclose a handpiece that shows the limitations as described above and plurality of planetary gears; however, they do not explicitly disclose plurality of three. Meller et al. teach a handpiece comprising transmission arrangement having three uniformly distributed planetary gears. It would have been obvious to one of ordinary skill the art at the time the invention was made to show plurality of three planetary gears in view of Meller et al. It would have been obvious to one of ordinary skill in the art as to the specific transmission ratio in that it is known to modify the components, such as size, of the transmission arrangement to obtain different reduction ratios.

9. Claim 9 is rejected as understood, under 35 U.S.C. 103(a) as being unpatentable over Garcia et al. in view of Meller et al. The modified handpiece of Garcia et al. and Meller et al.

Art Unit: 3732

disclose a handpiece that shows the limitations as described above and the planetary gear carriers of all stages are hollow shafts; however, they do not show the extension of the drive shaft for the first transmission stage extending substantially over the entire length of the transmission arrangement, centrally through openings in the carriers. It would have been obvious matter of choice to one of ordinary skill in the art to have the drive shaft that extends substantially through the following transmission stage to further extend into the opening of the hollow shaft of the planetary gear carrier.

10. Claims 14-17, 22-25, 29, and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Garcia et al. in view of Lev et al. (2004/0048711). Garcia et al. disclose a handpiece that shows the limitations as described above; however, they do not show components of the transmission stages at least partially comprise ceramic material. Lev et al. teach components such as planetary gears and sun gear comprising ceramic material [0012]. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the components of the transmission stages of Garcia et al. to partially comprise ceramic material as in Lev et al. in order to provide fatigue-resistant components in view of Lev et al. Lev et al. does not show ceramic material of silicon nitride, it would have been obvious to one of ordinary skill in the art as to the specific type of nitride as Lev et al. disclose broad range of ceramics of carbides, borides and nitrides.

#### ***Response to Arguments***

11. Applicant's arguments with respect to the rejected claims have been considered but are moot in view of the new ground(s) of rejection.

Art Unit: 3732

*Conclusion*

12. Any inquiry concerning this communication or earlier communication from the examiner should be directed to Melba Bumgarner whose telephone number is 571-272-4709. The examiner can normally be reached on Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cris Rodriguez can be reached at 571-272-4964. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Melba Bumgarner  
Primary Examiner